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ABSTRACT

In an attempt to prevent drug abuse, the U.S. Army developed drug education programs (DEP) at all its installations to inform soldiers about the dynamics and consequences of drug use. This paper presents the findings of the recently completed evaluation of Army DEP. The study surveyed 1,716 enlisted men at 16 posts about exposure to the DEP and their present and former drug use. In addition, an experiment was performed at one post where the reported drug use patterns of a sample of enlisted men were measured before and after initiation of a formal DEP. Results of the study showed that drug education provided to adolescent and postadolescent Army enlisted men did not affect their drug use. The report postulates that the impact of DEP might have been different had the audience consisted of young schoolchildren who had not yet tried drugs. Reasons for the failure of the DEP are suggested. (Author/PC)

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AN EVALUATION OF DRUG EDUCATION IN THE UNITED STATES ARMY*

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Currently, about half the young enlisted men (EM) in the U.S. Army use marijuana and more than a third use it at least weekly. Approximately 20% use depressants without prescription, a quarter use stimulants similarly; a fifth use hallucinogens, and one out of twelve uses heroin, although only 3% use it weekly, and only 0.3% use it daily.

As a result of these usage rates (and because of the experience with heroin in Vietnam), the U. S. Army has initiated a comprehensive program to combat alcohol and drug abuse. Drug education (DE) has been a central feature of this program; indeed, the Army has looked hopefully to educational techniques as the most promising means of preventing drug abuse. In this connection, the Army has directed commanders of all installations to develop and implement programs to inform soldiers about the dynamics and consequences of drug use. This paper presents the findings of our recently completed evaluation of Army drug education programs (DEP).

Framework of the Study

We analyzed the antecedents, the environment, the processes, and the products of Army DEP. We used a mixture of data-gathering methods,

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including observation, individual and group interviews, and anonymous questionnaires. This paper focusses on the effects of DE on the drug use of young EM.

We surveyed 1716 EM at 16 Army posts in the United States, Asia, and Europe about exposure to DE and present and former drug use. In addition to this broad survey, an experiment was performed at one post: the reported drug use patterns of a sample of EM were measured before and after initiation of a formal DEP.

Three kinds of analyses will be presented: (1) comparison of reported drug use patterns of EM exposed to DE with those not exposed (the broad survey), (2) analysis of reported drug use patterns before and after DE (the experiment), and (3) analysis of interactive effects of type of education process and audience characteristic on patterns of drug use (deeper analysis of the broad survey data).

Comparison of Those Exposed to DE with Those Not Exposed

Based upon responses to the item asking about exposure to DE, the sample was divided into two groups, those exposed and those not exposed. These two groups were subdivided on the basis of their report that, since coming to their post, their use of a drug: (1) increased or started, (2) stayed the same, (3) stayed zero, or (4) decreased or stopped.

There were no significant differences in use patterns of any drug (alcohol, marijuana, heroin, narcotics other than heroin, stimulants, depressants, and hallucinogens) between groups exposed and not exposed to drug education, except in the case of alcohol, and that difference

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was in a negative direction i.e., those exposed were more likely to report steady use and less likely to report decreasing or stopping.

In contrast to the above findings, when soldiers were asked directly about whether DE classes affected their drug use, 27% of those exposed to DE reported an effect. At one post, 45% of those exposed reported an effect. These results appear to indicate that education was influential, but they are contrary to the independent analysis of drug use. Why this apparent discrepancy? First, the definition of "effect" was not made clear; an effect might imply an increase or decrease, a change in mode of administration of the drug, a more wary behavior pattern, etc. More significant, perhaps is the likelihood that a direct question about the effect of DE is highly susceptible to response biases (such as a desire to give the approved response or react on the basis of cognitive dissonance). Consequently, we felt that relating separate reports of drug use patterns and DE exposure provided a more objective measure of the impact of DE.

A Natural Experiment

An experiment was arranged at one post where formal DE was just beginning for some units. Questionnaires were administered to 160 EM before the initiation of a formal DEP, then presented again two months later to 63 different enlisted men. Three battalion-sized units were used, chosen mainly on the basis that their formal ADEP had not begun at the first visit. To avoid introducing experimental bias, different squads in those units were used on the visit and revisit. Scheduling difficulties cut down sample size on the revisit.

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Of those exposed to DE, there was a difference significant at the .05 level by a Chi-square test between the number of men who reported having learned a little, some, or a lot about drugs before the formal program started and those who reported such knowledge after program initiation. (See Table 1.)

TABLE 1

PERCENT OF THOSE EXPOSED TO DE WHO REPORTED THAT THEY LEARNED

	Nothing	A Little	Some	A Lot
First Visit (Informal DE)	27	25	31	13
Second Visit (Formal DEP)	20	21	40	18

Although formal DE evidently did increase knowledge, it had little success in producing behavior changes. (See Tables 2 and 3.)

TABLE 2

CHANGES IN ALCOHOL USE SINCE COMING TO POST, FOR THOSE EXPOSED TO DE (PERCENTAGES)

	First Visit	Second Visit
Increase, begin, use hard liquor more	9	7
Stayed same	40	46
Stayed zero (never began)	13	24
Decrease, stop, use hard liquor less	38	23

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TABLE 3

CHANGES IN USE OF DRUGS OTHER THAN ALCOHOL SINCE COMING TO POST, FOR THOSE EXPOSED TO DE (PERCENTAGES)

	First Visit	Second Visit
Increase, begin, use hard drugs more	7	9
Stayed same	19	24
Stayed zero (never began)	49	46
Decrease, stop, use hard drugs less	26	20

On the whole, the introduction of formal DE did not change drug using behavior for the better. Its messages were not getting across much better than those of the informal program, and had no more positive effect.

Drug Use Prediction: the Interaction of Educational Approach and Audience Characteristics

The survey data on drug use changes were further analyzed to identify a broad range of determinants and to assess their relative power (the percentage of variance accounted for). Specifically, we assessed the interactive effect of three classes of variables on changes in drug use patterns:

(1) Demographic Predictors, e.g., pay grade, age, race, etc.

(2) DEP-related predictors, e.g., media, sources, content of knowledge, messages on alcohol and drugs, and post.

(3) Knowledge of drugs gained in DE, a moderator predictor.

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We used the Automatic Interaction Detection (AID-III) program developed at the Survey Research Center. AID was designed to simulate "the procedures of a good researcher in searching for the predictors [independent variables] that increase his power to account for the variance of the dependent variable."* The program searches a set of predictors to find which division of the data will most reduce the variance of the dependent variable. The resulting subgroups are then further split on subsequent predictors that most reduce the variance of the subgroups with respect to the dependent variable. These subgroups are then split, and so on, until one of the following conditions is met: all the variance is explained; the subgroups resulting from a split are smaller than a certain critical size (20 subjects) or no split will reduce unexplained variance by more than .8%.

Analyses were carried out with seven drugs, each for: (1) all respondents and (2) users. Figure 1 shows an example of results, for users of marijuana. The predictor variables picked accounted for 22.4% of the variance. The most important single variable accounting for the proportion who did not increase or begin their use of marijuana at their post ($\overline{Y}$) was whether or not EM were at Post 6, a Basic Combat Training Post where trainees were very closely supervised and had no time or opportunity for any unofficial activity. This variable accounts for 6.2% of the variance. Thus, $\overline{Y}$ is .966 at Post 6, and .603 at other posts. Among those not at Post 6, those who reported that they intend to pursue a career in the Army have a much higher $\overline{Y}$ (.776) than those

* Sonquist, J. A., Baker, E. L., and Morgan, J. A., Searching for Structure, Ann Arbor, Michigan, University of Michigan, 1971.

MARIJUANA - ALPHA

VARIATION EXPLAINED: 22.5%

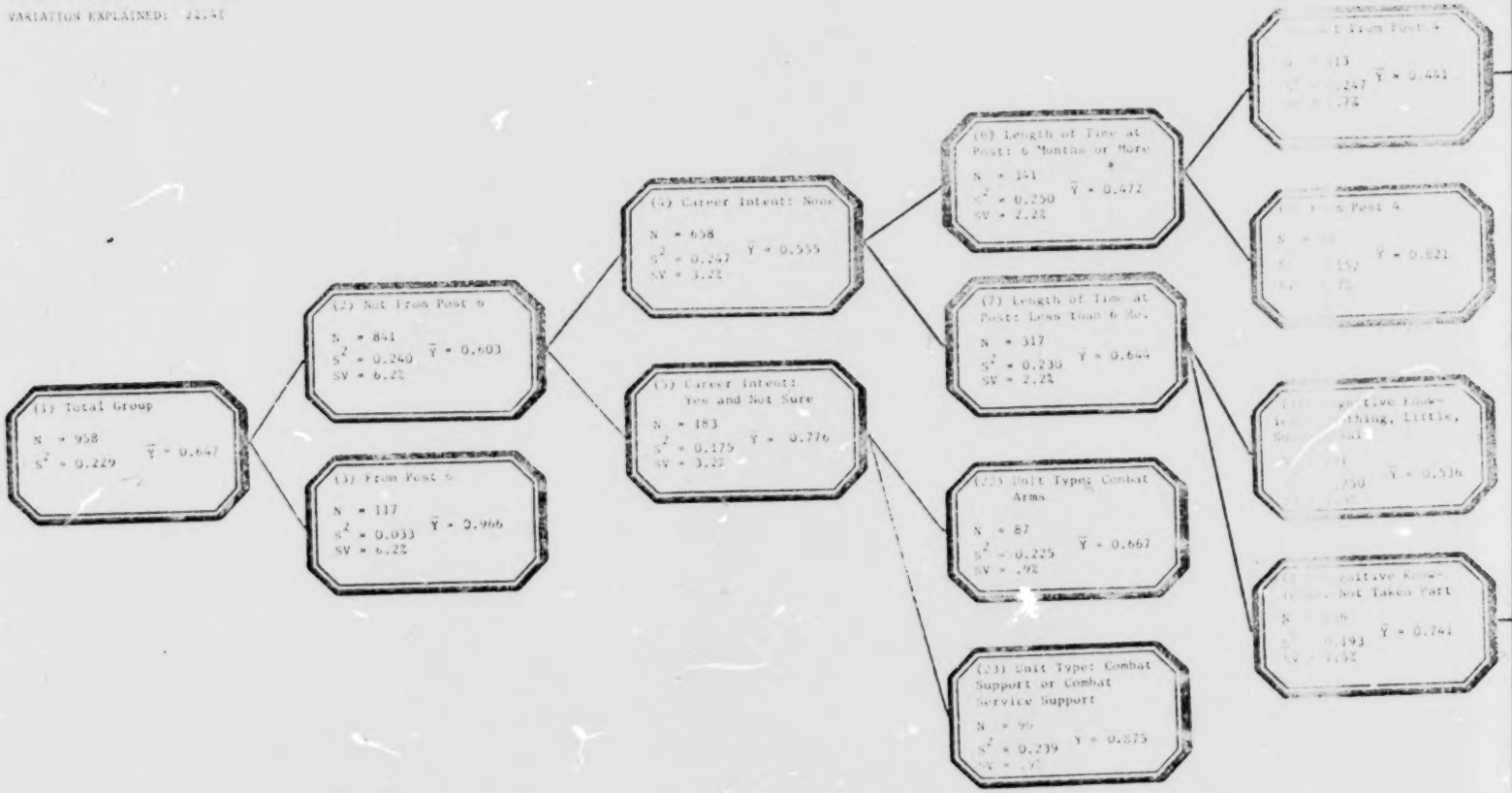

FIGURE 1

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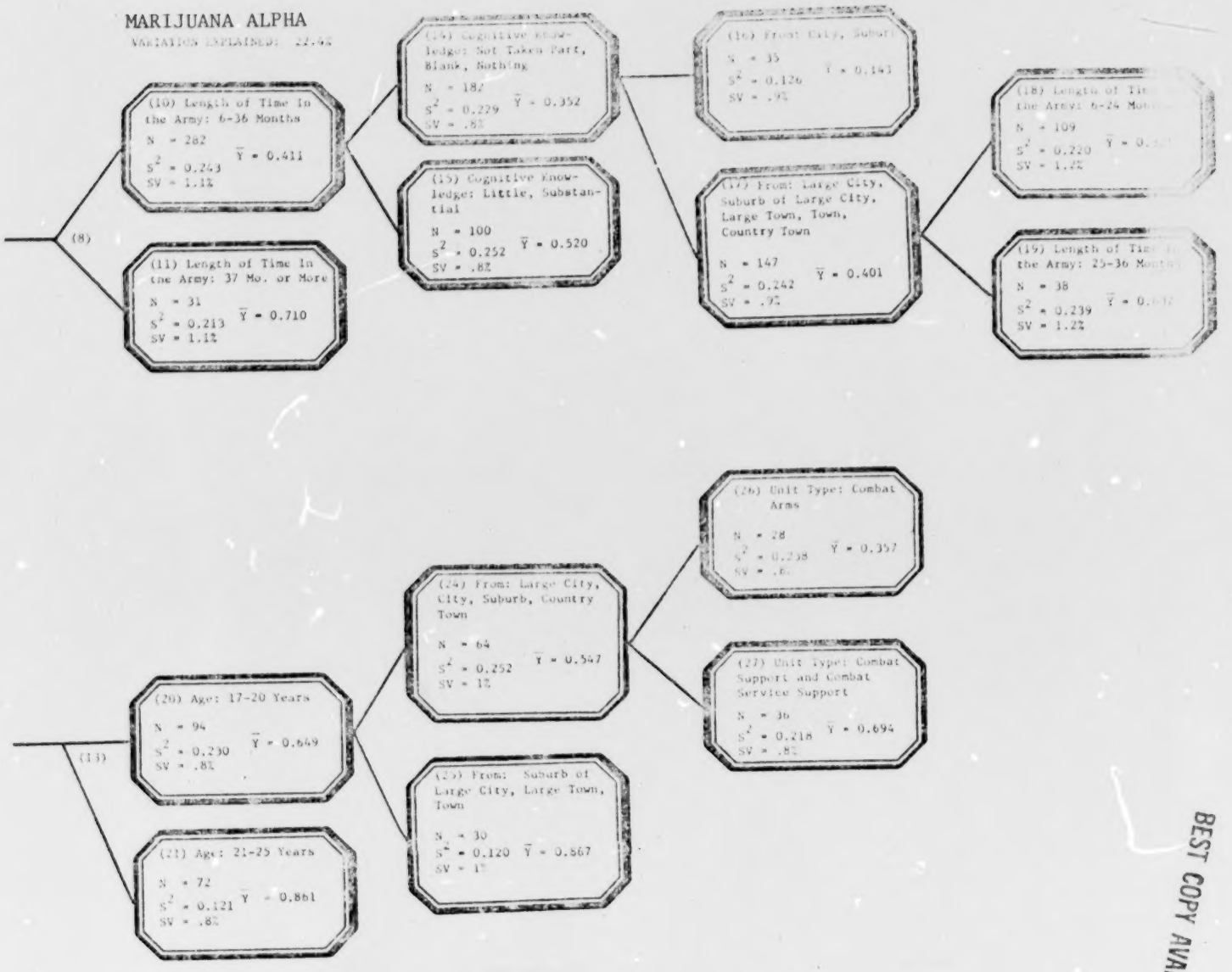

FIGURE 1 (Continued)

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who do not intend an Army career. We see further branchings for both the career and not-career groups, including such variables as length of time at the Post, type of unit, presence or not at Post 4 (which had a very strong law enforcement program against marijuana use), whether or not the respondent (R) participated in DE, the length of time R had been in the Army, how much R had learned in DE, and where R had lived before entering the Army.

Figure 1 is typical of the AID runs in several respects:

- Predictors other than exposure to DE account for substantial portions of the variance, and (not shown in this one example) show consistent relationships over drugs, and
- Predictors related to DE are seldom shown, account for little variance and (not shown in this one example) show no consistency over drugs.

The AID runs give us a deep understanding of the independent predictors that account for increases in drug use. They also corroborate our bivariate analyses: exposure to DE does not affect changes in drug use.

Discussion

We have shown that DE provided to adolescent and post-adolescent U.S. Army EM does not affect their drug use. The impact of DE might have been different, had the audience consisted of young schoolchildren, none of whom had tried drugs. Why did DE fail to affect its audience, in our study?

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Education can at best result in learning, in the acquisition of new facts and understandings. In some cases, education can influence attitudes--when these are attitudes toward abstractions or towards entities with which the learner has limited personal experience. But education cannot change attitudes or values or behavior, unless the learner is motivated toward change. Army EM who use drugs are strongly motivated to do so, and not strongly motivated toward change. Thus, when we deal with drugs, we are in the realms of feelings and emotion. The experiences and motivations of human beings have tempered them sufficiently, so that they are not easily shaped in the lukewarm water of educational programs. We cannot expect to prevent young men and women from beginning to use drugs, or to reduce their use, by presenting them with a one or two hour lecture on the names of drugs, their appearance, and what we assert drugs will do to them.